

# Notice of Allowability

Application No.

09/898,660

Examiner

Dah-Wei D. Yuan

Applicant(s)

SCHAEFFER ET AL.

Art Unit

1745

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/14/04.
2. ☒ The allowed claim(s) is/are 41-52 and 55-58.
3. ☒ The drawings filed on 02 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10142004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

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**BATTERY WITH GRID**

Examiner: Yuan

S.N. 09/898,660

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December 16, 2004

**Detailed Action**

1. The Applicant's amendment filed on October 14, 2004 was received. Claim 39 was cancelled. Claims 41,42,46,49-52,55-58 were amended. A new abstract was received.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action issued on July 14, 2004.

***Examiner's Amendment***

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Marcus W. Sprow on December 16, 2004. The application has been amended as follows:

Insert the following text as the first paragraph of the present application:

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This present application is a continuation of U.S. Patent Application No. 09/351,418, titled MODIFICATION OF THE SHAPE/SURFACE FINISH OF BATTERY GRID WIRES TO IMPROVE PASTE ADHESION, filed July 9, 1999 (now U.S. Patent No. 6,274,274), which is hereby incorporated by reference.

***Claim Rejections***

5. The claim rejections under 35 U.S.C. 103(a) as obvious over Wirtz et al. and Misra et al. as evidenced by Rao on claims 39,50-52,55-58 are withdrawn because the independent claim 39 has been canceled. The claim rejections under 35 U.S.C. 103(a) as obvious over Wirtz et al. Misra et al. and Kao et al. on claims 42,43 are withdrawn because the independent claim 39 has been canceled.

***Double Patenting***

6. The nonstatutory double patenting rejections on claims 39,42,43,55 over claims 1-14 of U.S. Patent No. 6,274,274 B1 are withdrawn because the independent claim 39 has been canceled.

***Reasons for Allowance***

7. Claims 41-52,55-58 are allowed. The invention of independent claim 41 recites a method of making a battery comprising forming a strip of interconnected grids from a grid material, applying paste to the strip, cutting the strip to form a plurality of plates, wherein modifying at least one of the wires comprises rotating at least a portion of the wire at the position intermediate the opposed ends of the wire. The closest prior arts of record, Wirtz et al. and Misra et al., do not disclose or suggest a step of rotating at least a portion of the wire at the position intermediate the opposed ends of the wire as stated in the claim. The invention of independent claim 44 recites a method of making a battery comprising forming a strip of interconnected grids from a grid

material, forming at least a portion of the grid of the grid elements, applying paste to the strip, cutting the strip to form a plurality of plates, wherein forming at least a portion of the grid elements comprises stamping the grid element, wherein a first transverse cross-section substantially has a shape selected from the group comprising diamond, oval, rhomboid, hexagon, and octagon and wherein the network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces. The closest prior arts of record, Wirtz et al. and Misra et al., do not teach or suggest the first transverse cross-section does not extend beyond the planar surfaces of the frames in the battery grid as stated in the claim. The invention of independent claim 45 recites a method of making a battery comprising forming a strip of interconnected grids from a grid material, forming at least a portion of the grid of the grid elements, applying paste to the strip, cutting the strip to form a plurality of plates, wherein the network and each of the frames define opposed substantially planar surfaces, and each second transverse cross-section does not extend beyond the planar surfaces. The closest prior arts of record, Wirtz et al. and Misra et al., do not teach or suggest the second transverse cross-section does not extend beyond the planar surfaces of the frames in the battery grid as stated in the claim. The invention of independent claim 46 recites a method of making a battery comprising forming a strip of interconnected grids from a grid material, modifying at least one of the wires at the position intermediate the opposed ends of the wire, applying paste to the strip, cutting the strip to form a plurality of plates, wherein forming the strip of interconnected grids from a grid material comprises feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip and punching grid

material out of the strip to form the strip of interconnected grids. The closest prior arts of record, Wirtz et al. and Misra et al., do not disclose or suggest feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip and punching grid material out of the strip to form the strip of interconnected grids as stated in the claim.

The invention of independent claim 49 recites a method of making a battery comprising forming a strip of interconnected grids from a grid material, modifying at least one of the wires at the position intermediate the opposed ends of the wire, applying paste to the strip, cutting the strip to form a plurality of plates, wherein forming the strip of interconnected grids from a grid material comprises feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip, piecing apertures in the strip of grid material and laterally expanding the strip of grid material. The closest prior arts of record, Wirtz et al. and Misra et al., do not disclose or suggest feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip, piercing apertures in the strip of the grid material and laterally expanding the strip of grid material to form the strip of interconnected grids as stated in the claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dah-Wei D. Yuan whose telephone number is (571) 272-1295. The examiner can normally be reached on Monday-Friday (8:00-5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dah-Wei D. Yuan  
December 17, 2004

A handwritten signature in black ink, appearing to read 'Dah-Wei D. Yuan', with a stylized flourish at the end.